Best Management Practices for Marinas

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U.S. Environmental Protection Agency Region 2

Pollution Prevention Team

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Introduction

This document highlights a limited number of practices that EPA believes can greatly improve the environmental performance of marinas in reducing pollution through the more efficient use of materials, energy, water and land. It complements the work of EPA's Enforcement and Compliance program in Region 2 EPA (New York, New Jersey Puerto Rico and the U.S. Virgin Islands) and also the efforts of the New York State Department of Environmental Conservation (NYSDEC).

The Pollution Prevention Team of EPA Region 2 compiled the information contained in this guide from a number of reference documents prepared by NYSDEC and the New York Sea Grant Extension Program. The following people spent valuable time reviewing and commenting on this document, providing input that helped make it a more useful informational resource for marina facility owners and managers:

- Christina Falk, Bureau of Water Permits, New York State Department of Environmental Conservation
- Philip Greco, Division of Environmental Compliance and Assistance, EPA Region 2
- Jay Tanski, New York Sea Grant Program
- Lawrence R. Wilson, Region 3 New York State Department of Environmental Conservation

In depth information on techniques, resources and equipment to reduce pollution at marina facilities may be found in a variety of sources listed in the references section of this guide. We strongly suggest that these references be consulted to help ensure your facility's compliance with state and federal regulations.

These BMPs are not designed to replace or overrule local, state, or federal regulatory requirements applicable to marina operations. You must consult with the appropriate regulatory agencies in your area to ensure compliance with all applicable laws and regulations.

1. Fuel Management

Storage

Keep all information about registered underground storage tanks, subsequent updates from your state environmental agency, and maintenance records in file in a central location.

Regularly inspect above ground fuel storage tanks (ASTs) and associated piping for leaks. All ASTs should have a secondary containment area that contains spills and allows leaks to be more easily detected. Secondary containment for ASTs must be impermeable to the materials being stored. Methods include berms, dikes, liners, vaults, and double-walled tanks. To keep out rain and reduce evaporation losses and moisture condensation, paint ASTs a reflective color, install them in an east-west direction, install a low-pressure valve on top of the tank, and cover the structure. A roof structure covering a tank will help conserve gasoline, which would have escaped by evaporation without the shade cover.

If an AST has remained out of service for more a year or more, many states require owners to maintain and monitor the tank, declare the tank inactive, or remove it. If the tank is declared inactive, remove all substances from the AST system (including pipes) and completely clean the inside. Secure tanks by bolting and locking all valves, as well as capping all gauge openings and fill lines. Clearly label tanks with the date and the words “Out of Service.” Samples may be required when removing tanks to determine if any contamination has occurred. Most States require out-of-service tanks to be inspected and meet leak detection requirements before they are put back into service.

Fuel Tank Disposal

Use, recondition or recycle all usable fuel before disposing of the tank.

Store tanks awaiting disposal away from ignition sources like heat or sparks.

Clearly label tanks "Waste Gasoline” or “Waste Diesel."

Fuel Station Operation

To the extent possible, locate fuel docks in protected areas to reduce potential for accidents due to passing boat traffic, and design them so that spill containment equipment can be easily deployed to surround a spill and any boats that may be tied to the fuel dock.

Store spill containment and control materials in a clearly marked and easily accessible location, attached or adjacent to the fuel dock. A rule of thumb is that you should have an oil absorbent boom three times as long as the length of the longest vessel that will be using the facility.

Keep oil absorbent pads and pillows available at the fuel dock for staff and customers to mop up drips and small spills.

Provide a stable platform for fueling personal watercraft, if your facility services significant numbers of them.

Routinely inspect and repair fuel transfer equipment, such as hoses and pipes.

Place plastic or nonferrous drip trays lined with oil absorbent materials beneath fuel connections.

Train fuel dock staff to handle and dispense fuel properly. Fuel dock staff should be trained to:

- Fill tanks slowly and carefully.
- Prevent overfilling of gas tanks by listening to or keeping a hand at the air vent, if possible; a pronounced flow of air is emitted when the tank is nearly full.
- Remember that fuel expands in warm weather and to leave at least 5% of space in a fuel tank to allow for that expansion.
- Attach a container or absorbent pad to the external vent fitting to collect overflow, as a precautionary measure. Several products attach to the boat with suction cups.

- Keep an absorbent pad or pillow ready to catch spills, drips, or overflow.
- Put a drip pan under portable fuel tanks. If possible, fill portable fuel tanks ashore.
- Prevent spills as well as respond to spills promptly if they do occur.
- Give information and direction to customers.

2. Facility Cleaning and Maintenance

Use cleaning products which may have less of an impact on the environment because they are less toxic and contain lower concentrations of volatile organic compounds (VOCs), ozone depleting chemicals (ODCs), and/or carcinogens.

EPA's Design for the Environment (DfE) works in partnership with industry, environmental groups, and academia to reduce risk to people and the environment by finding ways to prevent pollution. The DfE program has evaluated and allowed more than 2,500 products including all purpose cleaners, biological-based products such as bilge maintainers and a variety of other products that could be used at marina facilities to carry the DfE logo. For further information go to: http://www.epa.gov/dfe/

Read product labels. Avoid cleaning products with:

Alcohol	formaldehyde	perchloroethylene
Ammonia	glycols	Petroleum distillates
Bleach	hydrochloric acid	Phenol
Butyl cellosolve	Hydrofluoric acid	Phosphoric acid
Cresol	lye	Propellants
Dye	naphthalene	Sulfuric acid
Ethanol	PDCBs (paradichlorobenzenes)	TCE (trichloroethylene)

Depending on the cleaning job, always try cleaning with water and a coarse cloth first. Clean more often with fresh water only. If you must use a cleaner, use the product sparingly. Consider non-toxic alternatives for cleaning products. Even non-toxic substances can cause temporary harm to the environment and should therefore be used sparingly. Some non-toxic alternatives to typical cleaning products are:

ALL PURPOSE CLEANER	Mix one cup white vinegar with two gallons water.
AIR FRESHENER	Leave out an open box of baking soda.
AMMONIA-BASED CLEANERS	Vinegar, salt, and water.
BRASS CLEANER	Worcestershire sauce. Or paste made with equal amounts of salt, vinegar, and water.
COPPER CLEANER	Lemon juice and water. Or paste of lemon juice, salt, and flour.
CHLORINE BLEACH	Baking soda and water. Or borax.
CHROME CLEANER/POLISH	Apple cider vinegar to clean; baby oil to polish.
DISINFECTANTS	One half a cup borax in one gallon of water.
DRAIN OPENER	Dissemble and use a plumber's snake. Or flush with boiling water mixed with one quarter cup baking soda and one quarter cup vinegar.
FIBERGLASS STAIN REMOVER	Baking soda paste.
FLOOR CLEANER	One-cup vinegar plus two gallons of water.
STAINLESS STEEL CLEANER	Baking soda or mineral oil for polishing, vinegar to remove spots.
TOILET BOWL CLEANER	Use toilet brush and baking soda.
WOOD POLISH	Olive or almond oil (interior walls only)
WINDOW CLEANER	Mix two tablespoons vinegar in one quart of water or rub glass with newspaper.

Sources: Buller (1995) and MA Department of Environmental Management, Environmental Hazards Management Institute.

Floor Drains Area

Permanently seal floor drains with concrete if they do not connect to a sewer or holding tank. If the floor drain in a maintenance shop discharges to a dry well, the owner is required to report to the Underground Injection Control (UIC) program in Region 2 EPA at r2_uic@epa.gov.

Avoid or minimize the use of any ammoniated, petroleum or chlorinated solvent-based cleaning agents.

Sweep or vacuum floors often and immediately before floor washing.

Clean up fluid spills quickly with absorbent material. The absorbent must be disposed of properly.

Cover floor drains if there is a spill. There are inexpensive covers available for this purpose.

Air Compressors

Air compressor blow down water commonly contains lubricating oil or other potential pollutants. These hydrocarbons can contaminate surface and groundwater when improperly managed.

Evaluate the need for installing a dehumidifying system in the air compressor which would reduce the moisture content of the compressed air and therefore the volume of wastewater

generated. This practice may also prolong the life of the compressor by reducing loss of lubrication and rusting.

Visually inspect the exterior of air compressor equipment for the presence of oil leaks on a regular basis.

Establish a preventative maintenance program that includes, but is not limited to, a schedule for cleaning parts, a schedule for replacing oil, and a schedule for replacing filters for the air compressor equipment, as recommended in the manufacturer's specifications.

Remove or retain any floating layer of oil prior to discharge.

Investigate the purchase of an oil-free air compressor that would eliminate oil from the blow down water.

3. Boat Maintenance

Pressure Washing

Avoid in-water bottom cleaning or hull scraping or any process that occurs underwater to remove antifouling paint from the boat hull. While this is a popular practice for racing sailboats prior to a race to reduce drag, it makes it impossible to capture and treat what's cleaned from the boat bottom.

Pressure wash waste water should not be discharged directly to surface waters or the ground without a permit from your state environmental agency (the New York State Department of Environmental Conservation permits the use of an infiltration pad for wash water without a permit). To the extent possible, marina facilities should try to collect the wash water, treat it and either dispose of it at a sewage treatment plant (through discharge to a sanitary sewer or by hauling using a licensed hauler) or recycle it. Discharge to the sanitary sewer requires local water pollution control authority approval.

Where feasible, wastewater from the washing operation may be collected and reused through a closed loop pressure wash treatment system. Minimize the use of detergents, caustic cleaners and other additives when pressure washing.

Minimize the amount of pressurized water used when boats are power washed. For example, wash the hull above the waterline by hand.

Winterizing

Use propylene glycol antifreeze (usually pink) which is less toxic than ethylene glycol (usually green) to winterize all systems except "closed" or freshwater cooling systems. Even though propylene glycol is considered less toxic, it is still not permissible to discharge this chemical.

Inspect and clean bilges prior to extended vessel storage. Clean all water, oil, or foreign materials from the bilge using absorbent material.

4. Stormwater Non-structural Practices

Perform as much boat repair and maintenance as practicable inside work buildings.

Where an inside workspace is not available, perform abrasive blasting and sanding within spray booths or tarp enclosures.

Where buildings or enclosed areas are not available, provide clearly designated land areas as far from the water's edge as possible for debris-producing maintenance. Collect as much maintenance debris on tarps, filter fabric, or paved surface.

Use vacuum sanders to collect dust and chips while removing paint from hulls.

Establish a list of "yard rules" that do-it-yourselfers and contractors must follow when performing debris-producing boat maintenance.

Clean hull maintenance areas immediately after any maintenance is done to remove debris, and dispose of collected material properly.

Capture pollutants out of runoff water with permeable tarps, screens, and filter cloths.

Sweep or vacuum around hull maintenance areas, parking lots, and driveways frequently, where appropriate.

Store all potential pollutants such as pesticides, used oil containers, detergents, etc. under cover.

5. Stormwater Structural Best Management Practices

Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. When left uncontrolled, this water pollution can result in the destruction of fish, wildlife, and aquatic life habitats, a loss in aesthetic value, and threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

The National Pollutant Discharge Elimination System (NPDES) Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which may adversely affect the quality of our nation's waters.* The program uses the permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

* More detailed information about industrial stormwater permit compliance and associated BMPs may be found in the References Section

The regulated entities must obtain coverage under a NPDES stormwater permit and implement stormwater pollution prevention plans (SWPPPs) that effectively reduce or prevent the discharge of pollutants into receiving waters. Some suggested measures for marinas include the following:

- Plant a vegetated filter strip or buffer between impervious areas and the marina basin. A vegetated filter strip is a densely vegetated strip of land engineered to accept runoff from upstream development as overland sheet flow. Designed properly, a filter strip can provide a recreational amenity for your customers and enhance the appeal of your facility.
- Minimize impervious areas on the marina site by paving only where absolutely necessary. Use porous pavement for parking lots and lightly traveled access roads, or other penetrable materials such as gravel or crushed concrete.
- Direct roof runoff to drywells or position downspouts so that they drain to vegetated areas. Avoid draining to concrete or asphalt.
- Explore the feasibility of using new techniques and innovative products to capture, pre-treat, and filter the first flush of stormwater runoff before it can reach your basin.
- Use catch basins with deep sumps where stormwater flows to the marina basin in large pulses.
- Install oil/grit separators to capture pollutants in runoff. Water from parking lots and other areas likely to have hydrocarbons should be directed through oil/grit separators before entering any other management structure (Note: this practice requires a lot of maintenance).
- Maintain catch basins regularly. Typical maintenance of catch basins includes trash removal if a screen or other debris-capturing device is used, and removal of sediment by a hired contractor or on-site wet-vacuum system. At a minimum, catch basins should be cleaned at the beginning and end of each boating season.
- Add filters to storm drains that are located near work areas to screen solid materials out of runoff.
- Place absorbent materials in drain inlets to capture oil and grease.

6. Minimize Dredging Impacts.

Dredging has the potential to reduce fish spawning and juvenile fish survival. Areas dredged may suffer destruction of spawning habitat, destruction of fish eggs, and mortality of fish within the dredging area due to removal of bottom substrates and resulting high levels of suspended silt. Currents can move silt particles suspended during dredging away from the site and deposit them in spawning or juvenile fish habitats some distance away.

Do not dredge during critical migration or spawning periods of important species of fish and wildlife.

Avoid colonial waterbird nesting areas and historic waterfowl staging and concentration areas.

Employ dredging methods that have minimal detrimental environmental consequences such as hydraulic dredging.

Use turbidity curtains to contain suspended sediments in areas with mud or silt bottoms.

7. Recycling and Waste Management

Recycling

Provide clearly marked, conveniently located recycling containers for customers and staff to use, particularly for plastic, glass and metal food/beverage containers and other recyclables generated at your facility.

Do not put trash or recycling containers on docks, as waste can easily blow into the water.

Purchase products made with recycled contents to close the recycling loop (i.e., create a market for the materials you recycle). Buy recycled printing and writing paper, towels, tissue, re-refined motor oil and antifreeze.

Educate employees about separation requirements and your recycling program.

Encourage boaters to exchange excess paints, thinners, and varnishes rather than dispose. Provide a bulletin board where boaters can post notices if they have or need a particular substance, or establish a paint and maintenance chemical swap area for customers.

Use reusable or recyclable boat covers for boat storage. Recycle used plastic boat covers.

Consider cooperating with other nearby businesses to simplify recycling and reduce costs. Your municipal recycling coordinator may be able to help you find or establish a cooperative business-recycling program.

Waste Management Practices

Place covered trash receptacles in convenient locations away from the water for use by marina patrons.

If practical, secure trash receptacles at night to prevent "midnight dumping," since marina operators are responsible for the content of dumpsters.

Train employees to pick up stray trash as a daily practice.

Fish Waste

Recommended general practices regarding the handling of fish waste:

Prohibit disposal of fish waste in the marina basin. Post signs displaying the rules.

Do not permit fish cleaning on docks and floats.

Install a fish cleaning station at your marina.

Clearly identify the fish cleaning stations with signs that list the rules and regulations for their use.

Direct rinse water from fish cleaning areas to a sand filter or sanitary sewer. It should be free of solids.

Use one of the following disposal methods:

- Compost fish waste where appropriate and use compost on landscaping.
- Encourage boaters to freeze fish parts and reuse them as bait or chum on the next fishing trip. Use grinder to make chum out of fish carcasses. Freeze and sell chum at marina store.
- If composting or freezing is not an option, encourage boaters to double-bag their fish parts and home-compost or discard in their regular trash.

Encourage boaters to clean fish offshore where the fish are caught and discard of the fish in unrestricted waters, unless there are length limits for the type of fish caught.[*]

Pet Waste

Provide a dog walking area that is identifiable by signs.

Require customers to clean up after their pets. Provide bags for boaters to scoop up waste and dispose of in trash.

Specify pet waste rules in marina slip contract.

Encourage cat owners to maintain a litter box on their boat.

8. Land Use

Use Upland and Inland Areas

Locate buildings, workshops, and waste storage facilities in upland areas, as distant from fragile shore side ecosystems as possible. Upland areas also provide a measure of protection against floods.

Locate parking and vessel storage areas away from the water.

[*] See Appendix for guidance specific to New York State's Fish Carcass Law

Conduct boat repair activities and winter storage inland. Hydraulic trailers can facilitate moving boats to inland storage locations.

Locate new septic systems at least 100 feet from the water's edge in soils with a depth to the seasonal high water table of at least four feet.

Expand Upward

Where local regulations allow, rather than adding wet slips, expand storage capacity by adding dry-stack storage.

Boatels provide the following environmental benefits:

- Dry-stacked boats do not accumulate marine growth. Consequently, toxic antifouling paints are unnecessary and the associated need to wash, scrape, and paint is eliminated.
- Dry-stacked boats are less likely to accumulate water in their bilges. Therefore, they are less likely to discharge oily bilge water.

Control stormwater runoff from dry-stack areas as well as from any expanded parking areas.

Keep forklifts well tuned to prevent grease or oil from dripping onto staging areas or into the water.

9. Energy Efficiency

Energy Efficiency

Use energy efficient products where possible at your marina. Consult the EnergyStar products list at http://www.energystar.gov/ to identify products that use less energy to operate and save on utility bills. Once you identify products that you may wish to purchase, use the store locator provided on the EnergyStar website. Also consider using the Database for State Incentives for Renewables and Efficiency (DSIRE) at http://www.dsireusa.org/ for information on state, local, utility and federal incentives and policies that promote renewable energy and energy efficiency.

10. Water Efficiency

Promote the WaterSense program at your facility. The program seeks to help consumers make smart water choices that save money and maintain high environmental standards without compromising performance. Products and services that have earned the WaterSense label have been certified to be at least 20 percent more efficient without sacrificing performance. More information about WaterSense may be found at: http://www.epa.gov/WaterSense/.

Simple conservation steps include:

- Fix leaks and drips.

- Install “low-flow” faucets, toilets, and showerheads.
- Equip all freshwater hoses with automatic shutoff nozzles.
- Water plants only when necessary. Indicators include wilting shrubs and grass that lies flat and shows footprints. Water in the cooler early morning or early evening to avoid stressing plants and to minimize water evaporation.
- Select plants suited to the existing conditions (i.e., soil, moisture, and sunlight) so that they will require little care in terms of water, fertilizer, and pesticides.
- Water deeply and infrequently rather than lightly and often. Deep watering promotes stronger root systems that enable plants to draw on subsurface water during hot spells and droughts.
- Cluster plants with similar water requirements. This practice will ease your maintenance burden, conserve water, and benefit the plants.
- Replace lawn areas with wildflowers, groundcover, shrubs, and trees.
- Direct downspouts into covered containers. Use the collected water on your landscaped areas.

11. Green Products

EPA has developed a Greener Products portal that identifies a number of environmentally friendly products that can be used at marinas and other business establishments. Information about a variety of products for cleaning, office equipment, building, appliances, etc. can be found at the following website: http://www.epa.gov/greenerproducts/

12. Landscaping

EPA's GreenScapes program provides cost-efficient and environmentally friendly solutions for landscaping. Designed to help preserve natural resources and prevent waste and pollution, GreenScapes encourages more holistic decisions regarding waste generation and disposal and the associated impacts on land, water, air, and energy use. More information about GreenScapes may be found at: http://www.epa.gov/greenscapes/

Use native plants for landscaping. Plants that are native to the region and climate compete well with weeds and other pests. They also require less fertilizer and pest control than non-native plants. Native plants can be purchased at your local nursery.

Avoid planting invasive species. Invasive species multiply rapidly and take over areas very quickly. Your local Soil and Water Conservation District or Cooperative Extension Service should also be able to provide you with information on invasive species specific to your area.

Save water by watering in the early morning or late afternoon. Oscillating sprinklers can lose up to 50% of water to evaporation on hot days.

Plant a vegetated filter strip or buffer between impervious areas and the marina basin.

Minimize fertilizer use. The excess nutrients from unused fertilizer will run off into the marina basin and potentially cause an algal bloom.

Compost leaves, branches, grass trimmings, and other organic matter. Use the mature compost to nourish your soil. Alternatively, chip branches and leaves and use as mulch to discourage weeds and to conserve moisture.

Recycle "gray water." Gray water is water used once for dishwashing or in a washing machine, but is not overly contaminated. It can be filtered and used to water landscaped areas. However, regulations vary, so be sure to check local ordinances for permit requirements and written approval before pursuing this option.

Pull weeds by hand to reduce reliance on herbicides.

Do not use pesticides outdoors just before a rainfall or on a windy day.

Apply insecticides during the evening when honeybees and other beneficial insects are less active.

Do not apply pesticides near water, e.g., shore, wells, streams, ponds, bird baths, swimming pools, etc.

13. Boater Education

Post signage in the boat yard describing environmentally preferable practices.* Train employees about clean boating practices. Let them know what information is available to distribute to customers.

The NJ Marine Sciences Consortium and New York Sea Grant have developed a series of fact sheets for boaters on topics such as petroleum control, vessel cleaning and maintenance, vessel sewage and waste management practices, available at:
http://www.njcleanmarina.org/guidebk.htm and
http://www.seagrant.sunysb.edu/marinabmp/section7/factsheets.htm.

Consider the following:

- Hosting an environmental workshop for marina members.
- Including environmental information in facility newsletters.
- Including environmental boating practices in slip contracts.
- Providing a list of "yard rules" to your customers who do their own boat maintenance and include them in your contracts.

* See Appendix for suggested boater signage

14. Emergency Planning

Contact local emergency response providers or local U.S. Coast Guard Marine Safety Office to obtain basic information about how to handle emergencies and/or for training opportunities.

List and describe actions to be taken during an emergency and, based on likely threats, what equipment should be deployed.

Develop an action checklist for severe weather. Preparations to reduce environmental risks include securing all dumpsters, removing or securing all objects which could potentially blow or wash away, and securing waterside sewage pumpouts and/or dump stations.

Develop a site plan of the facility, showing valves, pipes, tanks, structures, roads, hydrants, docks, power and fuel shutoffs, hazardous material storage locations, telephones, and location of emergency response materials.

Describe the type, amount, and location of hazardous and potentially hazardous materials stored on-site.

Review the emergency response plan with employees, and train them on proper use of containment material. Identify which staff member will take what action in the event of an emergency.

Include a list of emergency phone numbers for: local fire and police; facility owner; local harbormaster; neighboring marinas that have emergency response equipment; and spill response contractors. Inform local fire department and harbormaster of your emergency response plan.

Update the emergency response plan as necessary.

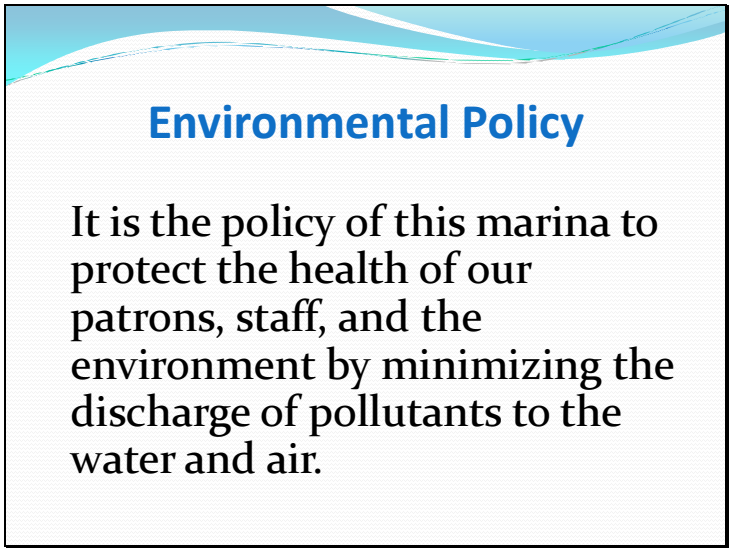
Appendix

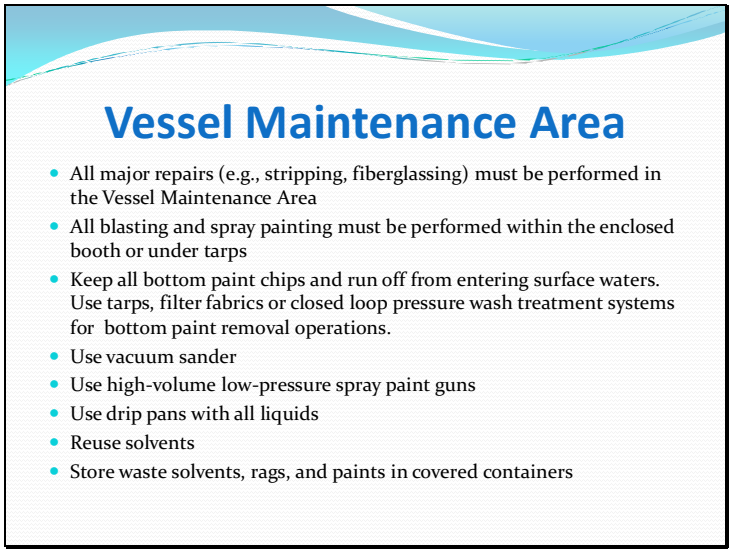
New York State's Fish Carcass Disposal Law

Under New York State's Fish Carcass Disposal Law, it is illegal to discard any fish carcass, or parts thereof, into the freshwaters of the state within 100 feet of shore or upon any public or private lands contiguous to and within 100 feet of such water, except:

- On private lands by owners of such lands.
- If properly disposing into suitable garbage or refuse collection systems or by burial.
- Where incidental cleaning of fish for consumption is permitted. However, resulting waste may not be disposed of within 100 feet of any public launching or docking site unless into a suitable refuse collection system. Live fish and fish which must be returned to the water because of size limits, open seasons and creel limits are not subject to the fish carcass disposal law.

Suggested Boater Signage





Keep Fuel Out of the Water

- Do Not Top Off Tank
- Listen and Anticipate When Tank is Full
- Wipe up Spills Immediately

Do Not Discharge Sewage

- Please use our clean, comfortable restrooms while you are in port
- Nutrients and pathogens in sewage impair water quality

Think Before You Throw

The following items may not be placed in this dumpster:

- Oil
- Antifreeze
- Paint or varnish
- Solvents
- Pesticides
- Lead batteries
- Transmission fluid
- Distress flares
- Loose polystyrene peanuts
- Hazardous waste

Marine Sanctuary

This marina provides food and shelter for young fish

- Prevent oil spills!
- Keep bilge clean!
- Use oil absorption pads!

Help by recycling or properly disposing of used oil, antifreeze, solvents, cleaners, plastics, and other wastes.

No Fish Scraps

Please do not discard fish scraps within the marina basin

- Use our fish cleaning station
- Bag the scraps and dispose of in dumpster or at home

References

General

EPAShipshape Shores and Waters: A Handbook for Marina Operators and Recreational Boaters, January 2003
http://www.epa.gov/owow/NPS/marinashdbk2003.pdf

EPA Industrial Stormwater Fact Sheet Series
Sector Q: Water Transportation Facilities with Vehicle Maintenance Shops and/or Equipment Cleaning Operations
http://www.epa.gov/npdes/pubs/sector_q_watertransportation.pdf

New Jersey

NJDEP, New Jersey Clean Marina Program at: http://www.nj.gov/dep/njcleanmarina/.

New York

NYSDEC, Environmental Compliance, Pollution Prevention, and Self-Assessment Guide for the Marina Industry, March 2003
http://www.dec.ny.gov/docs/permits_ej_operations_pdf/marinaman.pdf

NYSDEC, Stormwater Pollution Prevention Plan (SWPPP) Checklist for Marinas, Dec 2010
http://www.dec.ny.gov/docs/water_pdf/msgpchecklst.pdf

NY SeaGrant Extension Program, Marina Environmental Best Management Practices Web Site
http://www.seagrant.sunysb.edu/marinabmp/

NY SeaGrant Extension Program, Stormwater Runoff Best Management Practices For Marinas: A Guide for Operators
http://www.seagrant.sunysb.edu/cprocesses/pdfs/BMPsForMarinas.htm